

WHAT IS CLAIMED IS:

- 1 1. A method comprising:
  - 2 reading one or more event data, the one or more event data corresponding to an
  - 3 event monitored from a system;
  - 4 for each event datum, compressing the event datum if the event datum is
  - 5 determined to be compressible;
  - 6 creating a processed event record, the processed event record conforming to a
  - 7 record format; and
  - 8 storing the one or more event data in the processed event record in accordance
  - 9 with the record format.
- 1 2. The method of claim 1, wherein said creating a processed event record and storing
  - 2 the one or more event data in the processed event record in accordance with the
  - 3 record format comprises one of the following:
    - 4 if one or more of the one or more event data is determined not to be compressible,
    - 5 then:
      - 6 creating an uncompressed event record in an uncompressed record format;
      - 7 and
      - 8 storing each event datum in an uncompressed format in the uncompressed
      - 9 event record;
    - 10 if each of the one or more event data is determined to be compressible, then:
      - 11 creating a compressed event record in a compressed record format; and
      - 12 storing each event datum in a compressed format in the compressed event
      - 13 record; and
    - 14 if one or more of the one or more event data is determined not to be compressible,
    - 15 then:

16                   creating a hybrid event record in a hybrid record format; and  
17                   storing each uncompressed event datum in an uncompressed format in the  
18                   hybrid event record, and storing each compressed event datum in a  
19                   compressed format in the hybrid event record.

1     3.     The method of claim 1, wherein said compressing each event datum comprises  
2           characteristics-based compression.

1     4.     The method of claim 3, wherein the characteristics-based compression comprises  
2           using a selected one of one or more compression algorithms to compress the event  
3           datum, wherein the selected compression algorithm compresses the event datum  
4           in accordance with one or more characteristics of the event datum.

1     5.     The method of claim 4, additionally comprising setting the one or more  
2           compression algorithms.

1     6.     The method of claim 3, wherein the characteristics-based compression algorithm  
2           comprises for at least one of the one or more event data:

3           generating a hash from a value, the value based, at least in part, on one or more  
4           characteristics of a given event datum of the at least one of the one or  
5           more event data;

6           mapping the hash to a dictionary index in a dictionary, the index corresponding to  
7           a dictionary entry; and

8           if the dictionary entry corresponds to the given event datum, then outputting the  
9           dictionary index.

1     7.     The method of claim 6, additionally comprising if the dictionary entry does not  
2           correspond to the given event datum, then outputting the given event datum.

1     8.     A method comprising:

2           reading one or more processed event records from an event buffer, each processed  
3           event record including one or more processed event data corresponding to

4                   one or more uncompressed event data; and  
5           generating one or more client uncompressed event data corresponding to the one  
6           or more uncompressed event data, said generating one or more client  
7           uncompressed event data including one of:  
8           decompressing an event datum if the event datum is in a compressed  
9           format; and  
10          outputting an event datum if the event datum is not in a compressed  
11          format.

1    9.     The method of claim 8, wherein said decompressing the event datum comprises:  
2           mapping a plurality of bits of the event datum to a dictionary index in a  
3           dictionary, each entry in the address dictionary including a dictionary  
4           index and a corresponding dictionary entry; and  
5           using the dictionary entry to obtain the one or more uncompressed event datum.

1    10.    The method of claim 9, wherein if the event datum is not in a compressed format:  
2           generating a hash value from a compression value, the compression value based,  
3           at least in part, on the event datum;  
4           mapping the hash value to a dictionary index in a dictionary having one or more  
5           entries, each entry corresponding to a hash value and a dictionary entry;  
6           replacing the dictionary entry with the compression value, said replacing  
7           occurring at an entry of the dictionary corresponding to the hash value.

1    11.    An apparatus comprising:  
2           circuitry capable of:  
3           reading one or more event data, the event data corresponding to an event  
4           monitored from a system;

5 for each event datum, compressing the event datum if the event datum is  
6 determined to be compressible;  
7 creating a processed event record, the processed event record conforming to a  
8 record format; and  
9 storing the one or more event data in the processed event record in accordance  
10 with the record format.

11 12. The apparatus of claim 11, wherein said circuitry is further capable of using  
12 characteristics-based compression on each event datum.

1 13. The apparatus of claim 12, wherein said circuitry is further capable of using a  
2 selected one of one or more compression algorithms to compress the event datum,  
3 wherein the selected compression algorithm compresses the event datum in  
4 accordance with one or more characteristics of the event datum.

1 14. The apparatus of claim 13, wherein said circuitry is further capable of setting the  
2 one or more compression algorithms.

1 15. A system comprising:  
2 circuitry capable of:

3 reading one or more event data, the event data corresponding to an event  
4 monitored from a system;

5 for each event datum, compressing the event datum if the event datum is  
6 determined to be compressible;

7 creating a processed event record, the processed event record conforming  
8 to a record format; and

9 storing the one or more event data in the processed event record in  
10 accordance with the record format; and  
11

- 11 a compiler to read the processed event record.
- 1 16. The system of claim 15, wherein said circuitry is further capable of using  
2 characteristics-based compression on each event datum.
- 1 17. The system of claim 16, wherein said circuitry is further capable of using a  
2 selected one of one or more compression algorithms to compress the event datum,  
3 wherein the selected compression algorithm compresses the event datum in  
4 accordance with one or more characteristics of the event datum.
- 1 18. The system of claim 17, wherein said circuitry is further capable of setting the one  
2 or more compression algorithms.
- 1 19. A machine-readable medium having stored thereon instructions, the instructions  
2 when executed by a machine, result in the following:
- 3 reading one or more event data, the event data corresponding to an event  
4 monitored from a system;
- 5 for each event datum, compressing the event datum if the event datum is  
6 determined to be compressible;
- 7 creating a processed event record, the processed event record conforming to a  
8 record format; and
- 9 storing the one or more event data in the processed event record in accordance  
10 with the record format.
- 1 20. The machine-readable medium of claim 19, wherein said instructions, when  
2 executed by the machine, additionally result in the machine using characteristics-  
3 based compression on each event datum.
- 1 21. The machine-readable medium of claim 20, wherein said instructions, when  
2 executed by the machine, additionally result in the machine using a selected one  
3 of one or more compression algorithms to compress the event datum, wherein the  
4 selected compression algorithm compresses the event datum in accordance with

5           one or more characteristics of the event datum.

1   22.   The machine-readable medium of claim 21, wherein said instructions, when  
2           executed by the machine, additionally result in the machine setting the one or  
3           more compression algorithms.